

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Before the Board of Patent Appeals and Interferences

Ex Parte: BEKIARES, TYRONE
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Title: Dynamic Selection of Behavior Sets for
Middleware

Group: 2153
Examiner: PHILLIP J. CHEA

APPEAL BRIEF ON BEHALF OF APPELLANTS UNDER 37 CFR 41.37

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I. REAL PARTY IN INTEREST

The name of the real party in interest for purposes of this appeal is Motorola, Inc., a Delaware corporation.

II. RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences known to the Appellant, the Appellant's legal representative, or assignee which would directly affect or be directly affected by or having a bearing on the Board's decision in this pending appeal.

III. STATUS OF CLAIMS

Claims 1-20 remain in the application. Claims 1-20 are being appealed. Claims 1-7, 10, 11, 15-20 stand or fall together.

In a final Office Action dated June 10, 2008, the Examiner rejected Claims 1-20 under 35 U.S.C. 103(a) as being unpatentable over Jasen, et al. (US 2002/0019879) in view of Benveniste (US 2004/0196864).

IV. STATUS OF AMENDMENTS

No amendments to the claims have been made subsequent to the Final Office Action mailed June 10, 2008.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Although specification citations are inserted below in accordance with 37 C.F.R. § 41.37, these reference numerals and citations are merely examples of where support may be found in the specification for the terms used in this section of the brief. There is no intention to in any way suggest that the terms of the claims are limited to the examples in the specification.

Although, as demonstrated by the reference numerals and citations below, the claims are fully supported by the specification as required by law, it is improper under the law to read limitations from the specification into the claims. Pointing out specification support for the claim terminology, as is done here to comply with rule 41.37, does not in any way limit the scope of the claims to those examples from which they find support. Nor does this exercise provide a mechanism for circumventing the law precluding reading limitations into the claims from the specification. In short, the reference numerals and specification citations are not to be construed as claim limitations or in any way used to limit the scope of the claims.

The invention, as defined in independent Claim 1 and with reference to FIGs. 2 and 3, is a method for use by middleware (16) in a communication system comprising the steps of: enabling a group of behavior sets (220) for use by middleware (16) wherein the middleware provides an interface between at least one application (14) running on a first device and at least one network transport element (20) external to the first device, and wherein each behavior set in the group provides for at least one of a different set of routing rules and a different Quality of Service (230) for traffic sent between the at least one application and the at least one network transport element; operating (310, 330) in accordance with a first behavior set from said group; receiving at least one trigger (342, 344, 346) that indicates at least one of a condition of mission

criticality or a level of mission criticality for a situation that is external to the middleware, external to data routed to and from the middleware, and external to data associated with a user of the middleware; selecting (350) a second behavior set from said group based upon said at least one trigger; and operating (330) in accordance with said second behavior set. (Specification page 8, line 14 to page 9, line 10).

The invention, as defined in independent Claim 18 and with reference to FIGs. 2 and 3, is a method for use in middleware (16) in a communication system comprising the steps of: enabling a group of behavior sets (220) to be predefined for use by a first middleware (16) wherein the first middleware provides an interface between at least one application (14) running on a first device and at least one network transport element (20) external to the first device, and wherein each behavior set in the group provides for at least one of a different set of routing rules and a different Quality of Service (230) for traffic sent between the at least one application and the at least one network transport element; operating (310, 330) in accordance with a first behavior set from said group; receiving at least one trigger (342, 344, 346) that indicates at least one of a condition of mission criticality or a level of mission criticality for a situation that is external to the middleware, external to data routed to and from the middleware, and external to data associated with a user of the middleware; selecting (350) a second behavior set from said group based upon said at least one trigger; notifying (320) a second middleware of the selecting of said second behavior set wherein the second middleware provides an interface between at least one application running on a second device and at least one network transport element external to the second device; and operating (330) in accordance with said second behavior set, said operating comprising implementing a set of routing rules and Quality of Service determined as a function of said second behavior set. (Specification page 11, line 22 to page 12, line 29).

The invention, as defined in independent Claim 1 and with reference to FIGs. 2 and 4, is middleware (16, 40) for mediating between at least one application (14, 52) and at least one communication network transport (20), said middleware comprising; an application interface (200, 400) to at least one application (14, 52) running on a device; a network interface (210, 410) to at least one network transport element external to the first device; a group of behavior sets, wherein each behavior set in the group provides for at least one of a different set of routing rules and a different Quality of Service (230, 430) for traffic sent between the at least one application and the at least one network transport element; and a behavior set selection function (240, 440) operative for causing said middleware to operate in accordance with a first behavior set from said group; receiving at least one trigger that indicates at least one of a condition of mission criticality or a level of mission criticality for a situation that is external to the middleware, external to data routed to and from the middleware, and external to data associated with a user of the middleware; selecting a second behavior set from said group based upon said at least one trigger; and causing said middleware to operate in accordance with said second behavior set. (Specification page 5, line 26 to page 7, line 3; and page 10, line 16, to page 11, line 27).

VI. GROUND OF REJECTION TO BE REVIEWED ON APPEAL

- A. Whether Claims 1-20 are unpatentable under 35 U.S.C. 103(a) over Jasen, et al.
(US 2002/0019879) in view of Benveniste (US 2004/0196864)?

VII. ARGUMENT

A. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jasen, et al. (US 2002/0019879) in view of Benveniste (US 2004/0196864).

Claims 1-7, 10, 11, 15-20

When looking at Appellant's claimed invention as a whole as recited in independent claims 1, 18, and 19. Appellant's claimed invention is directed to operating in accordance with a first behavior set from a group of behavior sets, wherein each behavior set in the group provides for at least one of a different set of routing rules and a different Quality of Service for traffic sent between at least one application and at least one network transport element; receiving at least one trigger (wherein a trigger is defined as "a change in monitored conditions or parameters", specification at page 7, lines 8-9) that indicates at least one of a condition of mission criticality or a level of mission criticality for a situation that is external to the middleware, external to data routed to and from the middleware, and external to data associated with a user of the middleware; selecting a second behavior set from the group based on the at least one trigger; and operating in accordance with the second behavior set. Appellant respectfully submits that Jasen and Benveniste, individually or in combination do not teach or suggest all the claim limitations as set forth in the independent claims 1, 18, and 19. For example, independent claims 1, 18, and 19 recite "...receiving at least one trigger that indicates at least one of a condition of mission criticality or a level of mission criticality for a situation that is external to the middleware, external to data routed to and from the middleware, and external to data associated with a user of the middleware....", which is not taught or suggested by the combination of Jasen and Benveniste.

Jasen, et al. is directed to a method, system, and computer program product of prioritizing network services (Abstract). Such prioritization may comprise a better level of service, more timely system response and/or preferential treatment of traffic (paragraph 16, lines 3-6). Prioritization is controlled by defining modes and levels of prioritization typically based on criteria, such as the value of a transaction, the standing of a user, or the type of transaction (paragraph 16, lines 6-9). The modes of prioritization may comprise remapping TCP ports to which a communication is directed, remapping (including redirecting) uniform resource locators (URLs) and/or Internet Protocol (IP) addresses to which a communication is directed and/or tagging communications with quality of service (QoS) protocol information (paragraph 16, lines 11-17). The levels of prioritization define the type(s) of priority service offered to a user, such as timeliness of system response and preference of traffic treatment (paragraph 16, lines 17-19). Thus, through the use of prioritization, a network services provider can provide and control the network services to users of its services (paragraph 17, lines 1-3).

A network traffic management (NTM) system comprises a set of client and server functionality (paragraph 18, lines 1-3). A network service provider that employs the NTM system determines whether the user of the NTM provider's network services is eligible for a NTM client and/or NTM prioritization (paragraph 18, lines 4-8). In a typical scenario, the user accesses a URL or IP address of the NTM provider through a Web browser, which access triggers the prioritization eligibility determination in the NTM server (paragraph 18, lines 9-11). If the user is not eligible, the NTM system allows for the provision of normal network services to the user, i.e., services without prioritization provided by the NTM system (paragraph 19, lines 1-4). If the user is eligible but does not have NTM client software installed, a NTM client is installed to the user's device (paragraph 20, lines 1-3). One or more electronic upgrade coupons

are also installed to the user's device, which are used in conjunction with the NTM system to facilitate the prioritization of the provision of network services to the user (paragraph 20, lines 7-9 and 11-13). If a NTM client is already installed on the user's device, the NTM system determines what package of information needs to be installed, such as one or more of, a full NTM client including one or more new coupons, an update to the existing NTM client, one or more new coupons, or an update to one or more existing coupons (paragraph 21, lines 1-2 and 5-10).

Once the NTM client is installed, initialized, and operating, the user's network traffic or information about the traffic is routed through the NTM client to determine if the traffic should be provided prioritization or otherwise handled as normal network traffic (paragraph 22, lines 1-6). More particularly, the NTM client compares data associated with network traffic to coupon data in one or more coupons to determine whether a user's network traffic may receive NTM prioritization (paragraph 23, lines 1-4). If a match is found and the coupon(s) is valid, the NTM client sends a message comprising information about the NTM client and/or coupons the NTM server announcing that a NTM prioritization session of network traffic is about to begin and to validate the NTM client and/or coupons (paragraph 24, lines 9). If the NTM client and/or coupon(s) are valid and a prioritization session can be started, the NTM server sends back a validation and acknowledgement to the NTM client, whereupon the NTM client then processes other coupon data in the existing, new or updated coupon(s) to determine the mode and level of prioritization offered during the session (paragraph 25, lines 1-4; and paragraph 26, lines 1-5).

Benveniste is directed to an apparatus and methods for handling emergency message frames (e.g., "911" call frames, etc.) sent by a station in a wireless local-area network (Abstract). In an emergency call, the calling client in a wireless LAN will generate signaling frames to set

up a call (paragraph 9, lines 1-2). Signaling packets for call setup of a 911 call must be transmitted to the AP, on the wireless channel, quickly and reliably (paragraph 9, lines 3-5). To avoid delay in signaling frames, they are treating in a special way; e.g., by transmitting 911 signaling frames with the same access priority as the AP (paragraph 11, lines 1-4). Once, the 911 call is set up, voice data frames are generated as a constant periodic stream as voice is sampled periodically; and to ensure audible quality voice data, frames must arrive within a specified delay and with limited jitter on uplink and downlink transmissions (paragraph 14, lines 1-7). The remainder of Benveniste described how the delay and jitter requirements can be met on the downlink and the uplink.

The Office Action in item 3, pages 2-3 dated June 10, 2008 states that “*Jasen*, et al. discloses...receiving at least one trigger (see paragraph 24, where a trigger is considered applying a coupon)...[but] fails to disclose that the trigger indicates at least one of a condition of mission criticality or a level of mission criticality for a situation that is external to the middleware, external to data routed to and from the middleware, and external to data associated with a user of the middleware... In an analogous art Benveniste discloses a condition of mission criticality or a level of mission criticality for a situation that is external to the middleware, external to data routed to and from the middleware, and external to data associated with a user of the middleware (see paragraphs 11 and 14, describing how a condition for a mission critical situation (e.g., a 911 call) is treated with a higher quality of service; further implying that the mission critical situation is external (e.g., a fire external to the middleware, external to the data routed to and from the middleware, and external to the data associated with a user that caused someone to dial 911). Appellant disagrees with this argument.

Based on the summary above of Benveniste, this reference discloses in paragraphs 9, 11, and 14 how to quickly and reliably transmit 911 signaling packets generated by a calling client in order to set up a 911 call; and once the 911 call is set up how to ensure that the voice data frames sent during the 911 call arrive at their destination within a specified delay and with minimum fitter. Benveniste fails to disclose any type of middleware providing an interface between an application running on the device and a network transport element and fails to disclose a change in monitored conditions or parameters (i.e., trigger(s)) that indicate an emergency response condition external to the device, external to data transmitted to and from the device, and external to data associated with the user making the 911 call. At most Benveniste describes a user of a device making a 911 call, and the resulting 911 signaling and voice packets generated by the user device, i.e., the data routed from the user device, indicating that the packets should be given special treatment to ensure fast call set-up and clear delivery of voice during the 911 emergency response call. Thus, in Benveniste the type of packet determines how the packet is routed.

Moreover, modifying Jasen, et al. with Benveniste would at most provide for one or more coupons in a user device that included data directed to an emergency condition. Accordingly, when the 911 signaling and voice packets generated in Benveniste are sent through the NTM client of Jasen, et al. and compared to the relevant coupons, a match would cause the NTM client to signal an NTM session for the 911 signaling and voice packets so that these packets would be given NTM priority treatment. Thus, based on the combined teachings of Jasen, et al. and Benveniste, the type of data included in the packet would determine how the packet is routed or the priority to be given to the packet. By contrast, claims 1, 18, and 19 recite “receiving at least one trigger [i.e., a change in monitored conditions or parameters] that indicates at least one of a condition of mission criticality or a level of mission criticality for a situation that is external to

the middleware, external to data routed to and from the middleware, and external to data associated with a user of the middleware” and this change in monitored condition being used to select a behavior set to provide a set of routing rules and/or a QoS for the traffic being sent, which is not taught or suggested by Jasen or Benveniste, individually or in combination.

In view of the foregoing, Appellant submits that all of the limitations of claims 1, 18, and 19 are not taught or suggested in the teachings of Jasen and Benveniste either individually or in combination, and therefore the rejection of claims 1, 18, and 19 under 35 USC 103(a) should be withdrawn. Appellant requests that claims 1, 18, and 19 now be passed to allowance.

Dependent claims 2–7, 10, 11, 15–17, and 20 depend from, and include all the limitations of independent claim 1. Therefore, Appellant respectfully requests the reconsideration of dependent claims 2–7, 10, 11, 15–17, and 20 and requests withdrawal of the rejection of these claims. Appellant requests that claims 2–7, 10, 11, 15–17, and 20 now be passed to allowance.

Claim 8

Appellant disagrees with the statement in item 3, page 5 of the Office Action dated June 10, 2008 that “As per claim 8, Jasen further discloses that the at least one trigger is at least one of a remote trigger and an external trigger (see paragraph 23).” The Office Action in item 3, page 3 analogized a trigger to applying a coupon. The application of a coupon occurs internal to a client device (*see, e.g.*, paragraph 23, the NTM client matches data associated with the network traffic to coupon data), and therefore cannot read on the limitations of claim 8 of a “remote trigger” or an “external trigger”.

In view of the foregoing, Appellant submits that all of the limitations of claim 8 are not taught or suggested in the teachings of Jasen and Benveniste either individually or in

combination, and therefore the rejection of claim 8 under 35 USC 103(a) should be withdrawn. Appellant requests that claim 8 now be passed to allowance.

Claim 9

Appellant disagrees with the statement in item 3, page 5 of the Office Action dated June 10, 2008 that “As per claim 9, Jasen further discloses examining state information, and wherein said second behavior set is selected based upon said state information (see paragraph 23).”

Appellant has reviewed the reference including paragraph 23 and cannot locate examining state information and selecting a second behavior set based on state information. Paragraph 23, by contrast, discloses the NTM client examining network traffic in light of coupon data in one or more coupons to determine whether the network traffic should receive NTM prioritization.

Appellant requests that specific line numbers be provided and specific identification be provided of the teachings that can be analogized to the limitations in claim 9 or that the rejection be withdrawn. Appellant requests that claim 9 now be passed to allowance.

Claim 12

Appellant disagrees with the statement in item 3, page 5 of the Office Action dated June 10, 2008 that “As per claim 12, Jasen further discloses that determination of said first condition is made external to said middleware and communicated to said middleware via said at least one trigger (see paragraph 23).” Paragraph 23, by contrast, discloses the NTM client examining network traffic in light of coupon data in one or more coupons to determine whether the network traffic should receive NTM prioritization. This comparing occurs internal to the NTM client

software within the user device. Therefore, Jasen fails to read on “determination of said first condition is made external to said middleware”, recited in claim 12.

In view of the foregoing, Appellant submits that all of the limitations of claim 12 are not taught or suggested in the teachings of Jasen and Benveniste either individually or in combination, and therefore the rejection of claim 12 under 35 USC 103(a) should be withdrawn. Appellant requests that claim 12 now be passed to allowance.

Claim 13

Appellant disagrees with the statement in item 3, page 5 of the Office Action dated June 10, 2008 that “As per claim 13, Jasen further discloses that determination of said first condition is made by a second middleware that provides an interface between at least one application running on a second device and at least one network transport element external to the second device (see paragraph 23).” Paragraph 23, by contrast, discloses the NTM client examining network traffic in light of coupon data in one or more coupons to determine whether the network traffic should receive NTM prioritization. This comparing occurs internal to an NTM client software within one user device. Therefore, Jasen fails to read on “determination of said first condition is made by a second middleware...running on a second device”, recited in claim 13.

In view of the foregoing, Appellant submits that all of the limitations of claim 13 are not taught or suggested in the teachings of Jasen and Benveniste either individually or in combination, and therefore the rejection of claim 13 under 35 USC 103(a) should be withdrawn. Appellant requests that claim 13 now be passed to allowance.

Claim 14

Appellant disagrees with the statement in item 3, page 5 of the Office Action dated June 10, 2008 that “As per claim 14, Jasen further discloses that determination of said first condition is made manually (see paragraph 47).” Paragraph 47, by contrast, describes a method for installing the NTM client (i.e., a verbose install) that provides the user of the device with an option of rejecting the installation of the NTM client. Therefore, Jasen fails to read on “determination of said first condition is made manually”, recited in claim 14.

In view of the foregoing, Appellant submits that all of the limitations of claim 14 are not taught or suggested in the teachings of Jasen and Benveniste either individually or in combination, and therefore the rejection of claim 14 under 35 USC 103(a) should be withdrawn. Appellant requests that claim 14 now be passed to allowance.

Conclusion

Appellant respectfully requests that a timely Notice of Allowance be issued in this case. Such action is earnestly solicited by the Appellant. Should the Examiner have any questions, comments, or suggestions, the Examiner is invited to contact the Appellant’s attorney or agent at the telephone number indicated below.

Please charge any fees that may be due to Deposit Account 502117, Motorola, Inc.

Respectfully submitted,

Bekiares, et al.

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VIII. CLAIMS APPENDIX

1. (Previously Presented) A method for use by middleware in a communication system comprising the steps of:

enabling a group of behavior sets for use by middleware wherein the middleware provides an interface between at least one application running on a first device and at least one network transport element external to the first device, and wherein each behavior set in the group provides for at least one of a different set of routing rules and a different Quality of Service for traffic sent between the at least one application and the at least one network transport element;

operating in accordance with a first behavior set from said group;

receiving at least one trigger that indicates at least one of a condition of mission criticality or a level of mission criticality for a situation that is external to the middleware, external to data routed to and from the middleware, and external to data associated with a user of the middleware;

selecting a second behavior set from said group based upon said at least one trigger; and

operating in accordance with said second behavior set.

2. (Previously Presented) The method of Claim 1 further comprising the step of notifying a second middleware of the selecting of said second behavior set, wherein the second middleware provides an interface between at least one application running on a second device and at least one network transport element external to the second device.

3. (Previously Presented) The method of Claim 1, wherein said at least one trigger is at least one of:

- a light bar activation;
- a light bar deactivation;
- a change in the time of day;
- the speed of a vehicle;
- location information;
- an emergency bar activation;
- an emergency bar deactivation;
- an emergency button activation;
- an emergency button deactivation;
- a siren activation;
- a siren deactivation;
- a dispatch warning;
- a change in dispatch status;
- a change in incident status; and
- a change in situational status.

4. (Original) The method of Claim 1, wherein said middleware is a middleware client.

5. (Original) The method of Claim 1, wherein said middleware is a middleware server.

6. (Original) The method of Claim 1, wherein said step of operating comprises implementing a set of routing rules and Quality of Service determined as a function of said second behavior set.
7. (Original) The method of Claim 1, wherein said first behavior set is a default behavior set.
8. (Original) The method of Claim 1, wherein said at least one trigger is at least one of a remote trigger and an external trigger.
9. (Original) The method of Claim 1 further comprising the step of examining state information, and wherein said second behavior set is selected based upon said state information.
10. (Original) The method of Claim 1, wherein said second behavior set is selected based upon a determination of a first condition.
11. (Previously Presented) The method of Claim 10, wherein said first condition is the at least one of the condition of mission criticality or the level of mission criticality.
12. (Original) The method of Claim 10, wherein said determination of said first condition is made external to said middleware and communicated to said middleware via said at least one trigger.

13. (Previously Presented) The method of Claim 12, wherein said determination of said first condition is made by a second middleware that provides an interface between at least one application running on a second device and at least one network transport element external to the second device.
14. (Original) The method of Claim 12, wherein said determination of said first condition is made manually.
15. (Original) The method of Claim 10, wherein said determination of said first condition is made internal to said middleware based on said at least one trigger.
16. (Original) The method of Claim 1, wherein at least one of the behavior sets in said group is predefined.
17. (Original) The method of Claim 1, wherein at least one of the behavior sets in said group is dynamically determined.

18. (Previously Presented) A method for use in middleware in a communication system comprising the steps of:

enabling a group of behavior sets to be predefined for use by a first middleware wherein the first middleware provides an interface between at least one application running on a first device and at least one network transport element external to the first device, and wherein each behavior set in the group provides for at least one of a different set of routing rules and a different Quality of Service for traffic sent between the at least one application and the at least one network transport element;

operating in accordance with a first behavior set from said group;

receiving at least one trigger that indicates at least one of a condition of mission criticality or a level of mission criticality for a situation that is external to the middleware, external to data routed to and from the middleware, and external to data associated with a user of the middleware;

selecting a second behavior set from said group based upon said at least one trigger;

notifying a second middleware of the selecting of said second behavior set wherein the second middleware provides an interface between at least one application running on a second device and at least one network transport element external to the second device; and

operating in accordance with said second behavior set, said operating comprising implementing a set of routing rules and Quality of Service determined as a function of said second behavior set.

19. (Previously Presented) Middleware for mediating between at least one application and at least one communication network transport, said middleware comprising;

an application interface to at least one application running on a device;

a network interface to at least one network transport element external to the first device;

a group of behavior sets, wherein each behavior set in the group provides for at least one of a different set of routing rules and a different Quality of Service for traffic sent between the at least one application and the at least one network transport element; and

a behavior set selection function operative for causing said middleware to operate in accordance with a first behavior set from said group; receiving at least one trigger that indicates at least one of a condition of mission criticality or a level of mission criticality for a situation that is external to the middleware, external to data routed to and from the middleware, and external to data associated with a user of the middleware; selecting a second behavior set from said group based upon said at least one trigger; and

causing said middleware to operate in accordance with said second behavior set.

20. (Original) A system comprising at least one middleware server and at least one middleware client, each operative in accordance with the method of Claim 1.

IX. EVIDENCE APPENDIX

No evidence has been submitted pursuant to 37 C.F.R. §§ 1.130, 1.131, or 1.132, entered by the examiner and relied upon by the appellant in the appeal, or relied upon by the examiner as to grounds of rejection to be reviewed on appeal.

X. RELATED PROCEEDINGS APPENDIX

No decisions have been rendered by a court of the Board in any proceeding identified pursuant to paragraph (c)(1)(ii) of 37 C.F.R. § 41.37.